CS-161
Computer Science 1
Course Syllabus

Course Description
The first of a three-term sequence (CS161, CS162, CS260) for computer science majors
and others desiring a foundation in software development and computer programming.

Required Text/Materials
Liang, Introduction to Programming with C++ 3rd edition,

Online/Digital class materials can be found on eLearn or my faculty site:
elearn.chemeketa.edu
faculty.chemeketa.edu/ascholer/

Prerequisites
Prerequisite: MTH111; and CS160 or concurrent enrollment in EGR201; or consent of
instructor. (All prerequisite courses must be completed with a grade of C or better.

Performance Based Learner Outcomes
Upon successful completion of the class, students should be able to:
• Decompose complex problems into manageable sub-problems, and write algorithms to solve
these sub-problems.
• Read and explain algorithms written by others; apply and adapt algorithms; reason about basic
algorithmic correctness and complexity.
• Read and explain the effects of basic language operations and control structures (sequential,
conditional, iterative, and sub-program calls); appropriately use control structures in the design
of algorithms and correctly implement those structures in the syntax of the language under
study.
• Apply common techniques to debug logic errors and correct syntax errors.
• Read and explain the changing state of program memory objects; implement and modify
programs that use primitive and structured memory objects (arrays, structures/records)
• Explain scope and lifetime as applied to memory objects
• Use existing components in programs; design, implement, and document components;
implement communication between multiple components within a program.
• Describe the language translation process; demonstrates the use of editors, compilers and
ddebuggers to successfully translate high level code into executable programs.

Primary Teaching Method
Online course: Readings, on-line tutorials, and hands-on assignments.

On campus: [Web required] - Online course content supplemented with interactive lectures,
discussions, and classroom activities.
### ADA
Accommodations are collaborative efforts between students, faculty, and Disability Services. If you have already been approved for accommodations and requested them for this term, both you and I receive a Letter of Accommodation by e-mail. It is important that we discuss the accommodations as early in the term as possible. Students who believe they are eligible for accommodations but who have not yet obtained approval through Disability Services should phone 503.399.5192, e-mail disability@chemeketa.edu, or go to the office in Building 2.

### Diversity Values
We are a college community enriched by the diversity of our students and staff. Each individual and group has the potential to contribute in our learning environment. Each has dignity. To diminish the dignity of one is to diminish the dignity of us all.

### Affirmative Action
It is the policy of Chemeketa Community College and its Board that there will be no discrimination or harassment on the basis of race, religion, color, sex, age, national origin, ethnic origin, sexual orientation, gender identity, marital status, citizenship status, pregnancy and related conditions, family relationship, veteran's status, disabilities and tobacco usage in any educational programs, activities or employment. Persons having questions about equal opportunity/affirmative action should contact the Affirmative Action Officer at 4000 Lancaster Dr. NE, Salem, Oregon 97309-7070, or call 503.399.4784. To request this publication in an alternative format, please call 503.399.5192.

### Academic Honesty
The presentation of another individual’s work as one’s own or the act of seeking unfair academic advantage through cheating, plagiarism or other dishonest means are violations of the college’s “Students Rights and Responsibilities.” See the College catalog or public website for definitions and violation penalties - http://www.chemeketa.edu/aboutchemeketa/collegelife/honesty/policy.html

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### Course Requirements
- Quizzes and Exams must be taken at the times and dates scheduled. There will be no makeup or retake quizzes or exams. If you must miss an exam due to a REAL emergency, contact me (phone or email) PRIOR to the exam time.
- Online students must take a proctored midterm and final at a testing location approved by the instructor.
- This is NOT a self-paced course. Late assignments are worth a maximum of 60%.
- A minimal passing grade (D or better) is required on the final in order to receive a C or above in the course. An F on the final will result in a student’s grade being capped at a D.

### Grading/Policies

<table>
<thead>
<tr>
<th>Components</th>
<th>Weight</th>
<th>Grade Scale</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Major Assignments</td>
<td>40%</td>
<td>A = 90-100%</td>
<td>See the “Class Policies &amp; Student Tips” page for more details.</td>
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<tr>
<td>CPPLab/Minor Assignments</td>
<td>10%</td>
<td>B = 80-89%</td>
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<tr>
<td>Quizzes</td>
<td>20%</td>
<td>C = 70-79%</td>
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<tr>
<td>Midterm/Final Exam</td>
<td>30%</td>
<td>D = 60-69%</td>
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<td></td>
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<td>F = Below 60%</td>
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### Incompletes
Incompletes will only be given for students who have satisfactorily completed most of the course work and are unable to finish the course due to an extenuating circumstance beyond their control. Examples include: extended family leave approved by the College, validated personal illness requiring an extended hospital stay, a death in the immediate family or military leave.

### Course Content/Assignment Outline (visit the class web site for details)

<table>
<thead>
<tr>
<th>Week</th>
<th>Expected Topics &amp; Notes</th>
<th>Assignment Due</th>
<th>Exams</th>
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<tbody>
<tr>
<td>1</td>
<td>Class Overview &amp; Introduction to C++</td>
<td></td>
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<tr>
<td>2</td>
<td>Program Design &amp; Conditionals</td>
<td>Tue - A1</td>
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<tr>
<td>3</td>
<td>Math functions, Chars &amp; Strings</td>
<td>Tue - A2</td>
<td>Q1</td>
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<td>4</td>
<td>Loops</td>
<td>Tue - A3</td>
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<tr>
<td>5</td>
<td>Strings &amp; File IO</td>
<td>Tue - A4</td>
<td>Q2</td>
</tr>
<tr>
<td>6</td>
<td>Functions</td>
<td>Tue - A5</td>
<td>Midterm</td>
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<tr>
<td>7</td>
<td>Arrays &amp; C-Strings</td>
<td>Tue - A6</td>
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<tr>
<td>8</td>
<td>Multidimensional Arrays</td>
<td>Tue - A7</td>
<td>Q3</td>
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<tr>
<td>9</td>
<td>Structs</td>
<td>Tue - A8</td>
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<tr>
<td>10</td>
<td>Pointers &amp; Review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FINALS</td>
<td>See schedule of classes for final date/time</td>
<td>Mon - A9</td>
<td>Final</td>
</tr>
</tbody>
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### Course Notes
- **READ THE STUDENT TIPS & CLASS POLICIES** on my class web site for more detailed policies and advice.
  [faculty.chemeketa.edu/ascholer/cs161/welcome.html](http://faculty.chemeketa.edu/ascholer/cs161/welcome.html)
- You should not share assignment code with anyone other than your one partner (if you have one). All individuals involved in multi-party code sharing may receive 0’s on the assignment. Code interviews may be required to verify authorship of any assignment.